Technical Memorandum No. 7: Funding Strategies

Abstract

The purpose of this technical memorandum (TM) is to discuss alternative funding strategies for the development and operation of the SR 504 extension. The financial and other characteristics of the Riffe Lake (Option 6) and Windy Ridge (Option 12) option alignments are evaluated, and the ability of the project to be funded from various conventional and novel sources is discussed.

Fundamentally, the difficulty of developing a funding strategy for SR 504 is not that there is a scarcity of funding resources and instruments; rather, the projects costs are large relative to its transportation benefits, and its economic development benefits are difficult to quantify. This makes underwriting the necessary financing more difficult.

The memorandum concludes that there are four basic alternative funding strategies:

1. Seek high priority or discretionary project funding from federal highway authorities

2. Form a special district and develop tax increment and toll revenues from within the district

3. Invite the private sector to develop and operate the facility using toll finance augmented by other sources

4. Incorporate the project in an integrated transportation and economic development plan, to tap additional private resources

In general, it is hard to conclude that the project will proceed without some financial commitment from the public sector in the study area.

Project Background

In 1997, the Washington Department of Transportation (WSDOT) completed reconstruction of the Spirit Lake Memorial Highway (SR 504)

connecting the Mount St. Helens National Volcanic Monument with Interstate 5 to the west. Twenty years after Mount St. Helens erupted, interest in the volcano remains high, especially in the surrounding rural counties where residents want to improve economic development opportunities related to tourism. As a result of the surrounding counties' efforts, the Washington State Legislature authorized and WSDOT is conducting the *SR 504 Feasibility Study*. The purpose of this study is to identify the possible routes, environmental concerns, engineering constraints, construction costs, and economic feasibility of extending the Spirit Lake Memorial Highway, SR 504, from the National Monument to state and federal roads on the eastern side of the monument.

Designing a Highway Funding Strategy for the SR 504 Extension

Highway funding involves a chain of financial interrelationships among the road-operating and building entities, the financing authorities, and tax or fee-paying entities on which the financing burden ultimately falls. A sound funding strategy for the SR 504 extension is one that relies on financial instruments, fees, and organizational structures that are tailored to the particular characteristics of the SR 504 extension.

The Key Elements of a Highway Funding Strategy

Before discussing the SR 504 extension, it is important to define the elements of the highway funding system. In particular, it is important to distinguish between pricing, and funding/financing activities:

- *Pricing*. This refers to tax, fee or user charge instruments that generate the funds to support the financing and funding activities. Fuel taxes, registration fees, tolls, and weight-mile taxes are examples of *pricing* components. Pricing activity determines the incidence of the burden of project funding.

- *Funding and Financing. Funding* refers to the process of aggregating funds from users (or other entities) into the form needed to support the financing facility. Funding elements are thus the channels through which revenue flows on its way to financing highway activity, and generally house the investment decision makers. State highway funds, state transportation commissions, venture capital funds, and private investment pools are examples of the types of entities that constitute *funding* activities.

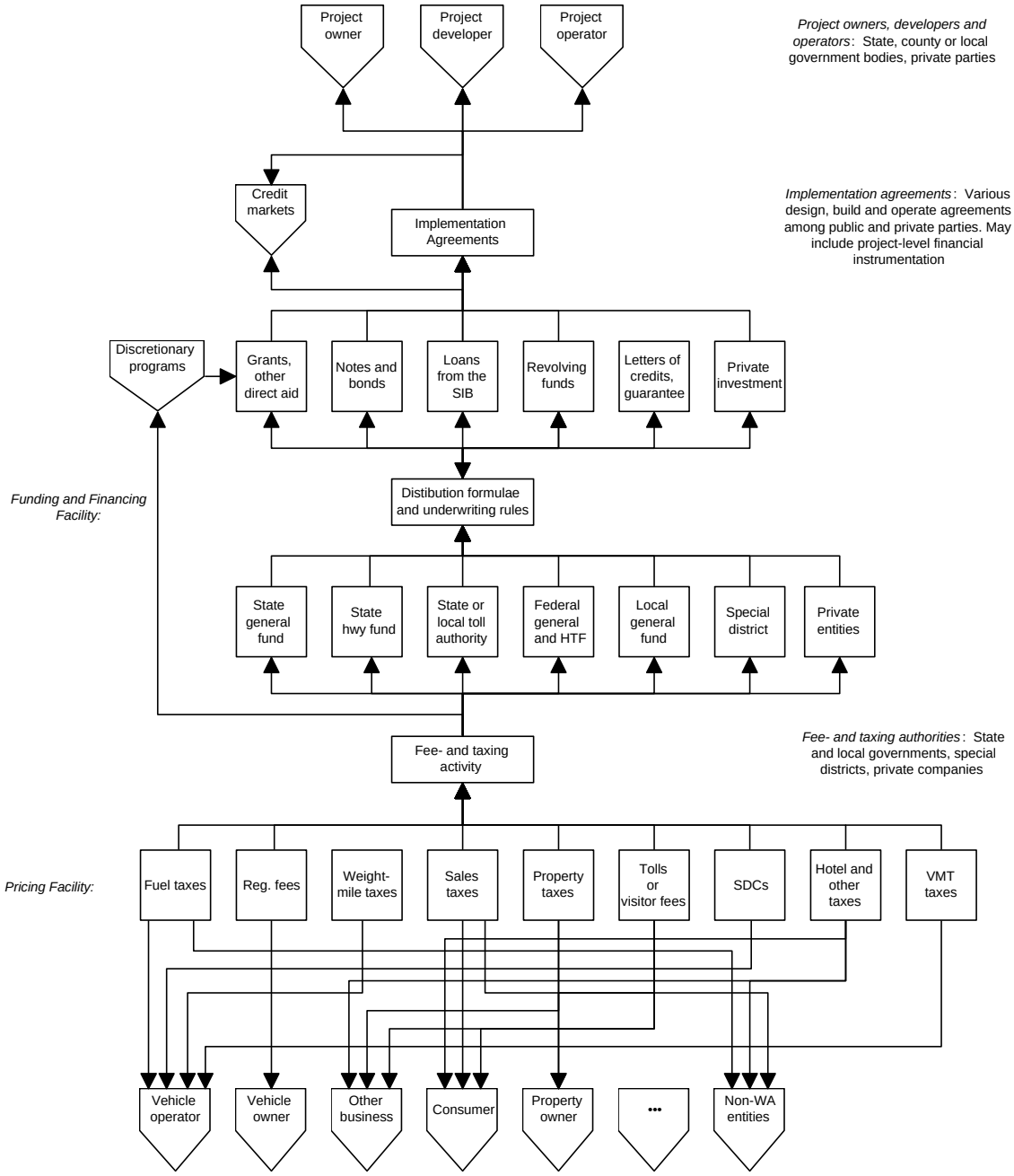
  Financing refers broadly to the creation of instruments to interface the operator and builder of highways with the funding process.

Financing activity performs the financial engineering necessary to convert funds into a form useful to the developer or operator of a facility. Special entities often need to be created to issue debt inexpensively or align the interest of public and private partners in the project. Bonds, letters of credit, loans, and loan guarantees are examples of elements of the *financing component* of a highway funding strategy.

Because there are many different ways to price, fund, and finance highways, there are a large number of potential funding strategies. To organize the discussion of the alternatives in this technical memorandum, the options within each of the three, key facilities are first discussed. At the end of this memorandum, the candidate strategies that may be of particular relevance for the SR 504 extension are identified.

Figure 1 illustrates the relationships among the activities that make up the highway project funding process. In the context of this technical memorandum, a funding *strategy* is defined as a specific path, or set of paths, that connect the project owners/developers/operators and those parties with ultimate cost responsibility, such as vehicle operators, owners, consumers, etc.

Figure 1: Stylized Schematic of the Highway Funding Process



SIB: State Investment Banks
HTF: Highway Trust Fund
SDC: System Development Charges
VMT: Vehicle Miles Traveled

Goals of a Funding Strategy

From a financial theory standpoint, the main goal of a highway funding strategy is to ensure that beneficial projects are built in a timely fashion, and that the cost responsibility for the development and operation of the project aligns as closely as possible with those who benefit from the project. This theoretical viewpoint generally puts policy makers in good stead in the real world as well, because a project is much more likely to be accepted by the public if it is beneficial and if those who do not benefit from it are not called upon to finance it.

As a practical matter, implementing these goals means tailoring the funding strategy to the nature of the facility. First, road projects provide a varying mix of benefits, depending upon the nature and location of the proposed improvements. Highways provide direct benefits to current and future users, but also may provide economic development benefits if they provide access to human or natural resources that are otherwise inaccessible.[1] Depending on the nature and extent of both user and economic development benefits, different funding strategies may be justified.

Second, the practical alternatives for funding a particular project are defined significantly by existing regulations and legislation. Existing institutional arrangements and financial instruments often circumscribe the practical funding options: federal limits on the amount of public debt that a state can issue, for example, can constrain some financing approaches. Novel approaches may be conceptually justified, but may require special legal or legislative efforts. Establishing IRS 63-20 non-profit corporations, for example, is one way to circumvent public debt issuance restrictions, but raises other practical and legal issues. Whether the extra effort of such approach is worth it or not (especially for an individual project) may depend upon the nature of the project.

Features of the SR 504 Extension that May Affect Funding Strategy

There are two alternative configurations of the SR 504 extension under consideration (see Technical Memorandum No. 5: Option Evaluation). Both share characteristics that affect the design of the funding strategy:

[1] Eberts, Randall W., "Estimating the Contribution of Urban Public Infrastructure to Regional Growth," December, 1986; Federal Reserve Bank of Cleveland.

- The facility is in a rural and economically undeveloped part of Washington state; the study area for the SR 504 Feasibility Project is comprised of five counties, Clark, Cowlitz, Lewis, Skamania, and Yakima. These counties contain 722,300 people, and the area outside of Clark County has relatively low incomes and high poverty and unemployment levels.[2]

- The facilities traverse sensitive public or private lands. The lands include the 110,000-acre Mount St. Helens National Volcanic Monument, as well as industrial forestland owned by private companies. The area is seismically active. Developed in the 1930s, the upper portion and lower segments of the prior SR 504 facility that traversed this area were destroyed by the eruption of Mount St. Helens in May of 1980.

- Because of the ruggedness of the region it traverses, the facility is relatively expensive to develop. For this analysis, we have been asked to consider the Riffe Lake option (Options 6) and the Windy Ridge option (Option 12), which are covered in Technical Memoranda Nos. 5 and 8. Both routes will be built to an AASHTO standard for mountainous terrain collectors and, as a result, will cost less than comparable developments built to state highway standards.[3] The Riffe Lake option would require the construction of approximately 17 miles of new road and upgrading of 5 miles of existing road, while the Windy Ridge option would require upgrading 15 miles of existing road and construction of 7 miles of new road between Coldwater Lake and Windy Ridge. The capital costs for the Riffe Lake and Windy Ridge options are estimated at $43.8 and $40.8 million, respectively. Annual maintenance costs, including annualized preservation costs, are estimated at $960,000 for the Riffe Lake option and $1.2 million for the Windy Ridge option.

- The SR 504 extension is not expected to be an alternate interregional route for large volumes of traffic. Rather, its primary uses are expected to be recreational access, and access to the small communities in the area. According to the U.S. Forest Service, there are currently five visitor centers along SR 504, as well as 12 campgrounds (with more than 600 camp sites and 280 picnic sites),

[2] See Technical Memorandum No. 4: Current Economic Patterns and Trends.

[3] This cost differential is significant. Under state highway standards, Option 6 would cost approximately $160 million and Option 12 would cost approximately $135 million.

and approximately 200 miles of hiking trails in the Mount St. Helens area. Demand for access to the region, and the ability to provide access, is likely to be seasonal.

SR 504 Extension's Financial Requirements

The nature of the financial requirements of building and operating the SR 504 extension will largely determine alternative funding strategies. In Table 1, the annualized, lifetime financing requirements are estimated at assumed financing rates for the Riffe Lake and Windy Ridge options. Since the facility likely has a lifespan of at least 30 years, inflation in operating costs and growth in annual traffic has to be properly accounted for. In Table 1, all costs are amortized over 30 years, and thus indicate the levelized cash flows required to repatriate 30-year debt financing.

The actual structure of financing may be quite different, of course, from that presented in Table 1. However, the calculations in Table 1 provide a rough indication of the burden that would need to be borne by the pricing components of the funding strategy, absent other sources. The most obvious implications of the calculations in Table 1 are:

- Under most financing rate assumptions, the present value of annual costs of the two options is similar. Both options, therefore, pose roughly similar funding challenges.

- The Riffe Lake option has higher initial (construction) cost requirements, and the Windy Ridge option has greater ongoing (operating) cost requirements. Consequently, the Riffe Lake option is a better candidate under conditions where construction funds are less constrained than operating funds and the Windy Ridge option is a better candidate under the opposite conditions.

- Because the Windy Ridge option is projected to carry less traffic than the Riffe Lake option, its per trip costs are approximately 10 percent greater than the Riffe Lake option. These characteristics affect the relative potential of the Windy Ridge option to be supported by user fees.

- Per-trip and per-VMT costs are high. This is especially true under the assumption of higher financing costs. This affects the potential of either option to be financed by user fees, and affects the attractiveness of the project to private partners, who generally have higher return expectations and financing costs than the public sector.

Table 1: Annual Amortized Capital and Lifetime Operating Cost Requirements for SR 504 Extension (Options 6, 12; in 2001 dollars)

	Capital Costs Per Year	Operating Cost[1] Per Year	Total Cost Per Year	Total Per VMT	Total Per Trip
Financing Rate	***Riffe Lake Option***				
4%	$2,534,693	$ 1,333,479	$3,868,172	$ 0.048	$ 1.05
6%	$3,184,202	$ 1,282,903	$4,467,104	$ 0.068	$ 1.49
8%	$3,893,306	$ 1,239,536	$5,132,843	$ 0.093	$ 2.05
10%	$4,649,453	$ 1,202,899	$5,852,352	$ 0.125	$ 2.74
12%	$5,441,217	$ 1,172,252	$6,613,469	$ 0.162	$ 3.57
	Windy Ridge Option				
4%	$2,060,979	$ 1,617,913	$3,678,893	$ 0.053	$ 1.16
6%	$2,711,132	$ 1,556,549	$4,267,681	$ 0.075	$ 1.64
8%	$3,420,866	$ 1,503,932	$4,924,798	$ 0.103	$ 2.27
10%	$4,171,417	$ 1,459,480	$5,630,987	$ 0.138	$ 3.04
12%	$4,948,278	$ 1,422,296	$6,370,574	$ 0.180	$ 3.97

Assumptions		
	Riffe Lake option	**Windy Ridge option**
Construction cost	$ 43,830,000	$ 40,792,500
Annual operating cost	$ 960,140	$ 1,164,940
Traffic growth, p.a.	1.8%	1.8%
Inflation rate, p.a.	2.5%	2.5%
Facility life (yrs)	30	30
Initial annual trips (ave.)	260,975	226,300
Trip length (mi.)	22	22
Initial AVMT (est.)	5,741,450	4,978,600

Note:
1. Operating costs include annualized preservation costs.

Source: ECONorthwest from HDR Engineering, Inc., data. All annual costs are presented as constant payment, present values amortized at the assumed financing rate. Annual operating costs have been inflated at the general inflation rate.

Table 2 uses the annualized project cost estimates from Table 1 to present these costs estimates relative to area economic activity measures. Specifically, the low and high end of the range of annual project costs estimated in Table 1 are presented relative to area population, employment, annual personal income, and annual taxable retail sales.

- Annual costs are high relative to income and employment if borne exclusively by one of the individual county economies that constitute the study area. This is especially true if the project costs were to be borne in the entirety, in some manner, by Cowlitz, Lewis, or Skamania county economies. In Skamania County, for example, the annual minimum project costs are equivalent to a 7.4 percent tax on retail sales, or 1.9 percent of personal income.

Under the high range cost estimate, these burdens are nearly doubled.

- At the study area or state level, however, the burden of the project is *de minimis*. For the five-county study area as a whole, for example, the project cost is only $5.41 to $8.90 per capita per year, or the equivalent of a less than one-tenth of a percentage point of the retail sales tax rate.

Table 2: Annual SR 504 Extension Costs Relative to Area Economic Activity (by area, by high and low project cost range)

Area:	Clark	Cowlitz	Lewis	Skamania	Yakima	5-County Study Area	Washington State
Project Costs Relative to Area Economic Activity							
	Low Range (Riffe Lake option , 4% Financing)						
Per capita	$11.81	$42.32	$56.81	$395.56	$17.68	$5.41	$0.68
Per employee	$25.71	$81.32	$113.09	$1,315.26	$33.75	$11.06	$1.34
Percent of income	0.04%	0.19%	0.28%	1.89%	0.09%	0.02%	0.00%
Percent of retail sales	0.12%	0.40%	0.50%	7.41%	0.18%	0.05%	0.01%
	High Range (Riffe Lake or Windy Ridge option, 12% Financing)						
Per capita	$19.46	$69.69	$93.56	$651.45	$29.11	$8.90	$1.12
Per employee	$42.35	$133.93	$186.25	$2,166.13	$55.59	$18.21	$2.20
Percent of income	0.07%	0.32%	0.47%	3.11%	0.14%	0.04%	0.00%
Percent of retail sales	0.20%	0.65%	0.82%	12.21%	0.29%	0.09%	0.01%
Memo Items: Economic Statistics (actual or estimated 1998)							
Population	327,418	91,409	68,094	9,779	218,808	715,508	5,685,300
Employment	150,432	47,565	34,204	2,941	114,609	349,751	2,895,000
Personal Income ($m.)	$8,802	$1,997	$1,360	$205	$4,533	$16,896	$150,160
Per Capita Income	$26,882	$21,851	$19,969	$20,915	$20,718	$23,615	$26,412
Retail Sales Base ($m.)	$3,148	$975	$776	$52	$2,195	$7,146	$73,863
Unemployment Rate	4.0%	7.9%	8.3%	10.0%	10.5%	7.2%	4.8%

Source: ECONorthwest, from TM#3 data and Washington Economic Databook obtained at: <http://www.ofm.wa.gov/databook/>

It is also helpful to consider the annual cost burden of the SR 504 extension in the context of the transportation revenues and expenditures in the state of Washington and the study area counties. In Table 3, the expenditure that would be associated with the SR 504 extension is expressed as shares of selected categories of revenues and expenditures. The calculations in Table 3 suggest the following:

- The estimated costs of the SR 504 extension generally would overwhelm the existing fiscal resources of the individual counties of the study area. If borne singly by an individual county, the annual burden would represent 10.9 to 156.1 percent of current county spending on transportation, and 7.3 to 339.9 percent of current county property tax revenues.

Table 3: Costs of SR 504 Extension Relative to Selected Transportation Revenues and Expenditures of the State of Washington and Study Area Counties

		SR 504 Costs as Percent of Current Revenues or Expenditures	
	Current Revenues or Expenditures ($m.)	**Low Range of Costs**	**High Range of Costs**
State Transportation Revenues (1997-1999)			
Total Revenue	$ 2,123	0.36%	0.60%
Motor Vehicle Fuel Tax	$ 1,473	0.53%	0.86%
Licenses, Permits and Fees	$ 503	1.54%	2.53%
Motor Vehicle Excise Tax – Referendum 49	$ 38	20.36%	33.53%
Miscellaneous Revenue	$ 39	19.84%	32.67%
State Transportation Expenditures (1997-1999)			
Total, Estimated Expenditures	$ 827	0.94%	1.54%
Total, Department of Transportation	$ 755	1.02%	1.69%
Maintenance	$ 241	3.21%	5.29%
Administration, Planning, et al	$ 167	4.63%	7.63%
Highway Construction and Preservation	$ 338	2.29%	3.77%
Other Capital Projects	$ 9	85.96%	141.57%
Uncommitted Fund Balance	$ 125	6.19%	10.19%
Study Area Transportation Expenditures (1998)			
Cowlitz County	$ 12	32.44%	53.43%
Clark County	$ 36	10.89%	17.93%
Lewis County	$ 13	29.13%	47.98%
Skamania County	$ 4	94.78%	156.10%
Yakima County	$ 22	17.84%	29.39%
Five-County Study Area	$ 86	4.47%	7.37%
Study Area Property Tax Revenues			
Cowlitz County	18	21.25%	35.00%
Clark County	53	7.33%	12.08%
Lewis County	11	35.96%	59.23%
Skamania County	2	206.36%	339.85%
Yakima County	23	16.82%	27.70%
Five-County Study Area	107	3.63%	5.98%

Source: ECONorthwest, from Table 1 and Table TT08, State of Washington, OFM, 2001 and County Profiles, various, Table 07, OFM, 2001. Note that State figures are calculated on a biennial basis, and county figures are calculated on an annual basis.

- At the study area level, the incremental burden of the extension is more reasonable. The projected costs of SR 540 is equivalent to 4.5 to 7.4 percent of the transportation spending of the five-county study area, and 3.6 to 6.0 percent of current study area property tax revenues.

At the state level, the costs of the SR 504 extension are equivalent to 2.3 to 3.8 percent of state highway construction and preservation expenditures and 3.2 to 5.3 percent of state spending on highway maintenance.

In summary, the characteristics of the SR 504 Extension project and the information in Tables 1, 2 and 3 suggest that the funding strategy will have difficulty accommodating the large scale of the project solely with resources from users or from an individual county within the study area. The justification of a funding strategy that exploits resources from the larger study area, state, and federal sources is that the facility's benefits generally also are broadly cast. This would only be the case if the facility provides significant, regional economic development benefits.[4] Technical Memorandum 6 indicates that the economic development benefits are not likely to be significant enough to justify the project.

In the next two sections of this memorandum, pricing and funding/financing options are discussed in detail. In later sections, opportunities for SR 504 are isolated and candidate funding strategies identified.

Options for the Pricing Component of an SR 504 Extension Funding Strategy

This section discusses the pricing component options of a funding strategy for the SR 504 extension. Specifically, this section addresses whether there are ways to generate new funds that could be dedicated to the SR 504 extension development and operation. A pricing component to the strategy is particularly important if the state is unable or unwilling to draw upon existing or tap new state or federal funding devices for the SR 504 extension.

Tolls or Visitor Fees

Toll-based pricing is a potentially attractive option on facilities like the SR 504 extension because it forges a direct link between the traffic that benefits from the facility and the traffic that finances the facility. Toll financing reduces the contentiousness of the construction of new facilities because the facility generates its own revenues, rather than simply vying for fixed pools of funds with other projects. These advantages have been demonstrated in California, Colorado and Florida.

[4] The relatively low traffic volumes and seasonal availability of the facility, however, suggest that the benefits to existing and future traffic are unlikely to be large enough to justify the facility. Hence, the benefits to existing and future traffic must be augmented by economic development impacts of the project for a broadly-cast funding strategy to be warranted and/or successful among the public.

The SR 504 extension is an ideal facility for pricing from the narrow viewpoint of implementation. The facility has few intersections with other facilities, and no parallel facilities onto which traffic can divert to avoid the toll. These characteristics reduce significantly the costs of implementing electronic pricing, the cost of which is falling rapidly as electronic tolling systems integrate with other consumer technologies, such as smart credit cards. Given that most of the traffic will be non-routine and non-local, conventional electronic tolling is unlikely to be an option for the SR 504 extension until smart credit cards with a generalized remote billing capability or other such technologies are more ubiquitous. Semi-mechanized tolling, however, using credit cards and dollar-bill changers may be cost-effective in the interim.

Travelers in the study area have some prior exposure to tolls. Tolls are levied on two, private bridges in the study area (the Bridge of the Gods near Stevenson and the Hood River Bridge near White Salmon). Toll finance is feasible, from a consumer cost perspective, under the scenario of low debt costs. At the highest likely costs of debt, however, the tolls are as much as $3.57 to $3.97 for each 22-mile trip –a figure far in excess of the 40 cents or so that is normally paid (through the gas tax) for traveling on Washington roads. In addition, the collection of tolls adds additional annual operation and maintenance costs. By comparing annual operation and maintenance costs at public (non-tolling) and private (tolling) bridges, it is estimated that toll collection costs will add approximately $0.69 for the Riffe Lake option or $0.78 for the Windy Ridge option, to these tolls depending on which option is chosen. Full recovery tolls, therefore, would approach $5 per trip under high finance cost conditions.

The traffic analysis reported in Technical Memorandum No. 3 indicated that day tourism traffic was likely to comprise a significant share of the SR 504 extension trips. The levels of traffic derived in Technical Memorandum No. 3, therefore, are likely to be impaired if tolls are levied at the high range of the figures above. Day tourism is price sensitive, and neither Mt. Rainier nor Mt. St. Helens have overnight accommodations or other attractions to extend visitor stays and lower the perceived cost of tolls. The resistance to trip fees would decline with destination development.

Fuel Tax Increment

Fuel tax increment pricing forges a similar, if rougher, link between users and cost responsibility. By levying a local fuel tax increment to finance the SR 504 extension, arguably those most likely to use the facility and benefit from its economic development benefits will bear cost responsibility.

Table 4 presents the implied gas tax increment required to support the estimated annual costs of the SR 504 extension.

Washington law permits local governments to implement local fuel tax increments. Again, the implied gas tax increment is practicable at the broad, study area level –in the range of one to two cents per gallon. Local increments of this order of magnitude are observed in both Washington and Oregon. It is possible that the largest counties (i.e., Clark and Yakima) may not perceive the benefits of the facility to be as great for them as it is for the smaller counties. Accordingly, the gas tax increments required if funding were the responsibility of the smaller, most rural counties in the study area, however, are likely infeasible; even if there were not political resistance, increments of this scale would encourage tax-avoiding refueling behavior, and reduce the revenue potential of the increment.

Table 4: Required Fuel Tax Increment in the Study Area

	Registered Vehicles (1998)			*Implied Gas Tax Increment*	
	Passenger Cars	**Trucks**	**Est. Annual Fuel Consumption gal.)**	**Low Cost Range**	**High Cost Range**
Cowlitz County	54,628	29,116	46,724,667	$0.08	$0.14
Clark County	187,930	71,225	141,448,333	$0.03	$0.05
Lewis County	37,461	24,328	34,949,167	$0.11	$0.18
Skamania County	4,289	2,686	3,935,167	$0.98	$1.62
Yakima County	120,977	58,815	99,698,500	$0.04	$0.06
Five-County Study Area	405,285	186,170	326,755,833	$0.01	$0.02

Registration Fee Increment

A registration fee increment is another potential device for self-finance of the facility. The data in Tables 1 and 4 can be used to estimate the approximate registration fee increment, per year, that would be required to underwrite the amortized cost of building and operating the facility.

The annual registration fee increments required at the individual county level are very high, and would likely discourage compliance, even if they were politically palatable. Again, when the large counties (Clark and Yakima) are combined with the smaller counties, average registration fee increment requirements become less onerous.

Table 5: Annual Registration Fee Increment, by Area ($2001)

Area	Total Registered Vehicles	*Estimated Registration Fee Increment*	
		Low Cost Range	High Cost Range
Cowlitz County	83,744	$44	$79
Clark County	259,155	$14	$26
Lewis County	61,789	$60	$107
Skamania County	6,975	$527	$948
Yakima County	179,792	$20	$37
Five-County Study Area	591,455	$6	$11

Source: ECONorthwest from Washington vehicle registration data.
Note that "Total Registered Vehicles" excludes trailers and other vehicles not classified as passenger cars or trucks.

The public appetite for this device, and hence its appropriateness, will depend upon the perception of whether the benefits of the facility accrue to vehicle owners rather than users or the economy at large. One interpretation of the appeal of Initiative 695 is that Washington's prior heavy reliance on motor vehicle excise taxes unreasonably mismatched vehicle fee burdens and cost responsibility. The use of a registration fee increment in this setting runs the same risk, unless motorists are convinced that they will benefit from the extension, whether they use it or not.

Property Tax Increment

Analogous to fuel tax and registration fee increments, a property tax increment is a means in some settings of financing the improvement at the expense of those most likely to benefit from it. As discussed earlier, the average property tax increment required to support the annual capital and operating costs of the project is not trivial, though more reasonable at the study area level than at the level of smaller jurisdictions (see Table 3).

In some ways, the property tax increment is a more conceptually attractive alternative than tolls or fuel and registration fee increments in the case where a facility's benefits are dominated by economic development effects. The reason is that regional land values are well known to incorporate or *capitalize* the value of the economic activity that occurs in the region. Levying a property tax increment provides a means of recovering the economic benefits and using them to finance the improvement itself. Proponents of the extension for its regional economic development benefits, therefore, should find the property tax increment an attractive and logical element of a pricing component.

Increases in property tax burdens of 3.6 to 6.0 percent (the increment required if levied at the larger study area), are not insignificant. However, county- and multi-county property tax increments have been successful

historically in Washington, Oregon and California when there is a good match between the taxing jurisdiction and the beneficiary population.

There are a number of ways to implement a property tax increment. One, of course, is to actually add a new increment to the property tax. Another is to "dedicate" revenue from a portion of the existing property tax millage. Then, as assessed values rise (as a result of the highway), revenue can be taken from this dedicated increment without impairing the flow of revenues to other dependent agencies. This "increment dedication" approach is being used in Portland, Oregon, on properties along the right-of-way of a new, downtown trolley line.

The advantage of the "increment dedication" approach over the new increment approach is that existing property tax payers do not see, nor need to vote for, a rate increase. They do, however, implicitly pledge certain additional property revenues to the facility. Such dedications are sometimes opposed by existing districts, however, because the dedicated increment initially comes at the expense of existing districts. Existing districts may not believe that property values generally will be rising sufficiently to provide surplus revenue for the transportation improvement. Increment dedication works best when there is new development anticipated and a growing tax base (as is the case in the study area, it should be noted).

Value Capture

A variant of the property tax increment approach, *value capture* techniques involve using one-time levies to capture the enhancement of property values that occurs with an improvement. There are various ways of effecting the value capture, including public condemnation and purchase of lands adjacent to the improvement (for later resale or development),[5] special capital gains levies or levies through the property tax, etc.

The value capture approach is best suited to situations in which *particular parcels or subareas* of a region are particularly benefited by the improved access provided by the improvement and *those areas can be clearly identified before the fact*. That is, the value capture approach can be seen as a device to capture *travel-related* benefits as they are capitalized into individual parcel values.

The value capture approach is probably inappropriate for the SR 504 extension. Benefits to travelers alone are unlikely to be sufficient to justify

[5] This is a practice in some transit station site development.

development of the extension, and it would be difficult to identify prior to development the parcels or subareas that will enjoy the greatest appreciation in value from the project. The general economic development benefits that proponents of the project anticipate, on the other hand, are less likely to be manifested selectively in increased property values in a few locations that can be identified before the fact. Therefore, a general property tax increment is more appropriate than a value capture strategy.

System Development Charges

A technique for compelling new, economic activity to selectively bear new public facility costs is the *system development charge* (SDC). This type of pricing device requires developers or buyers of newly developed property to pay lump-sum fees to support the capital costs they are imposing on transportation and other public facilities.

System development charges in various manifestations are widely used to finance local roads, sewer and water utilities, and schools in Washington and Oregon. A variant of the SDC is the so-called *Mello-Roos* fee. Mello-Roos fees are *ongoing* charges that a new property owner must agree to bear as a condition of purchasing an affected property. They are used in some areas of California to amortize the cost of schools and roads in new subdivisions because they have been ruled to be exempt from Proposition 13 tax rate limitations and referendum requirements. Because SDCs and Mello-Roos type charges burden only new development, for a given project expense, they will be larger (per new household) the slower is the rate of new development.

The study area is projected to enjoy relatively rapid population growth in the next few decades, a condition that is compatible with the use of SDCs, everything else being equal. Technical Memorandum No. 3 projects an annual population growth rate of 1.8 percent in the study area. This implies a population increase of 43 percent in 20 years and 71 percent in 30 years.

In Table 6, the 30-year growth assumption is used to estimate the size of the SDCs that would be required to support the costs of constructing the SR 504 extension. (It is important to reemphasize that SDCs generally can only be used to defray capital, i.e., *construction* expenditures. Hence, the calculations in Table 6 exclude the lifetime operating cost burden.) The required SDCs are very large, of course, if the growth of the small counties exclusively were compelled to bear the burden of the entire facility. At the

study area level, however, the SDCs are more modest at $249 to $267 *in present value terms*[6] per new household.

Table 6: Financing SR 504 Construction through SDCs ($2001)

Area	Current Population	Estimated 30-yr. Increase in Households	*Implied SDC per Household (in present value terms)*	
			Riffe Lake option	Windy Ridge option
Clark	327,418	74,989	$584	$544
Cowlitz	91,409	20,936	$2,094	$1,948
Lewis	68,094	15,596	$2,810	$2,616
Skamania	9,779	2,240	$19,570	$18,213
Yakima	218,808	50,114	$875	$814
Study Area	715,508	163,874	$267	$249

Source: ECONorthwest from Tech. Memo. No. 3 data, data from HDR, Inc. Assumes an average household size of 3.1 persons.

The disadvantage of SDCs in the context of the SR 504 extension is that the motivation for the extension is (at least partly) to *stimulate* economic development (for the benefit of existing residents), rather than being a response to the demands of economic growth. In this sense, the new capacity is being compelled by *current* rather than *future* conditions, as is typically the focus of SDCs. In addition, the SDC can only provide funding for capital expenditure, and not operations, so it would have to be married with another device to underwrite operating cost burdens. In addition, SDCs are a "lump sum" type instrument, in contrast to Mello-Roos instruments that amortize the expense over a period of time. One-time fees typically enjoy a lower level of public acceptance than fees spread out over time.

A practical advantage of SDCs, and a reason for their popularity, is that they are generally paid for by people *other than those who are residents at that time of their adoption.* (By definition, the fees are paid by newcomers to the region or district.) Although, as a result, it is relatively easy to get SDC rules implemented, homebuilder associations, realtors and owners of undeveloped property often challenge their implementation and subject the SDC and the capital improvement plan to close scrutiny.

[6]Unless all of the new household growth occurs in the first year of an improvement, an SDC must generally increase each year at a rate determined by the compounding of the borrowing rate. This is necessary to ensure that the interest costs associated with developing the facility are paid as new development gradually "joins" the financing scheme. Thus, the SDCs shown in Table 6 are the SDCs that would be paid today (2001). If the facility is developed with 4 percent financing, the SDC paid by a household in 2021 would be 2.2 times as large(= (1.00 + .04)^20). If the financing rate were 12 percent, the SDC in 2021 would be 9.6 times the levels in Table 5. SDCs that are collected long after the facility is developed are called *reimbursement* SDCs.

Sales, Use and other Tax Increments

Regional sales tax increments, permitted by law in Washington, have not been used extensively in Washington to finance transportation improvements, except in the Puget Sound area. This technique has been used successfully in suburban and exurban contexts in other western states, however, for exactly this purpose. In California, for example, so-called "Measure C" sales tax increments were accepted by voters in a number of California counties. The revenue from these increments is dedicated to support the counties' transportation capital improvement plans. If those being taxed perceive that forthcoming benefits will be adequate, passage of "avoidable" taxes like sales tax increments is relatively easy. Recent reauthorization of a sales tax increment dedicated to transportation improvements in Santa Clara County, California, passed this year by a popular majority of 81%.

Although Puget Sound voters approved the financing of Sound Transit improvements through sales tax increments, single highway project-related sales tax increments generally have been less successful. Voters in Sonoma County, California, for example, rejected two years ago a "Measure C"-type sales tax increment to finance improvements in the county's main north-south artery, Highway 101.

Sales tax increment finance offers a number of attractive features as a means of financing facilities that stimulate economic development. First, economists view sales taxes as a rough substitute for income taxation in a region. Because of the strong relationship between income and retail sales activity, a sales tax increment can be seen, therefore, as a way to partially recapture the economic development benefits to finance the facility. In addition, sales tax increment finance is simple to administer in Washington, where the infrastructure for implementing such a tax is already in place. In addition, since there is no sales tax on motor fuel sales, one option is to tax such sales in the study area to further focus cost responsibility on road users.

The disadvantage of the sales tax increment approach, particularly in southern Washington, is that it will increase leakage of retail sales activity to the adjacent state of Oregon, where retail sales are not taxed. This argues in favor of an "increment dedication" approach, rather than a new increment. (See the discussion of property tax increments above for a discussion of increment dedication.)

Table 7: Annual SR 504 Extension Costs as a Share of Existing Sales, Use and other Tax Revenues

Area	Sales and Use Tax Revenues	Other Taxes (Non-sales, non-property)	*Annual SR 504 Costs as Share of Sales Taxes*		*Annual SR 504 Costs as Share of Other Taxes*	
			Low cost range	High cost range	Low cost range	High cost range
Cowlitz County	$ 3,395,983	$ 4,031,835	113.9%	187.6%	95.9%	158.0%
Clark County	$ 18,592,909	$ 10,548,347	20.8%	34.3%	36.7%	60.4%
Lewis County	$ 4,718,004	$ 4,260,066	82.0%	135.0%	90.8%	149.5%
Skamania County	$ 202,562	$ 219,711	1,909.6%	3,145.0%	1,760.6%	2,899.5%
Yakima County	$ 8,013,546	$ 3,687,746	48.3%	79.5%	104.9%	172.7%
Five-County Study Area	$ 34,923,004	$ 22,747,705	11.1%	18.2%	17.0%	28.0%

Source: ECONorthwest from State of Washington County Profile data, Tables 07 for various counties.
Note that county data is from calendar year 1998, causing share estimates to be overstated.

Table 7 shows that reliance on the sales tax would be equivalent to 11.1 to 18.2 percent of current revenues from retail sales and use taxes in the study area. This is not a trivial share of those revenues, and thus the use of the sales tax increment approach requires substantial dedication of current revenues (and a concomitant expectation of significant economic development) and/or increases in study area sales tax rates.

Options for the Funding/Finance Components of an SR 504 Funding Strategy

In the terminology of this technical memorandum, *funding* entities would administer the revenue used to support the SR 504 extension project. It is often, but need not be, the funding entity that manages the levying of tolls, fees or taxes and that offers the *financing* services, such as the underwriting or issuance of debt.

In this section, the existing and potential funding and finance options for the SR 504 extension are discussed. [7]

Funding Entities and the Capacity of their Funding Sources

What are the existing funding entities and their potential to source funding for the SR 504 extension project? Although the SR 504 extension may be part of Washington's state highway system (and, if so, would cost more), the center of its effective funding facility may be other than the state. It is

[7] None of what follows should be presumed to be legal advice. Interpretation of state and federal codes is outside of the purview of the authors.

common for federal funds to flow to state and even local road projects, for example.

Similarly, a road can be part of a state system without the state necessarily being the builder or operator of that system. Special districts, local governments, quasi-public and private entities may be the builders and/or operators of state highways. (California's SR91 electronic tollway and Washington's SR16 project are examples of privately built and operated state highway facilities.)

Therefore, when one considers existing funding entities, existing local, state, and federal entities should all be considered.

Existing Local Funding Facilities

The primary local funding entities are the counties in the study area. In general, the scale of the project largely precludes significant reliance on any one existing local funding entity. As Table 3 demonstrates, the required annual costs of the SR 504 extension project constitute a significant, and likely overwhelming, share of the existing transportation spending and fiscal resources of any one county in the study area. Indeed, the project constitutes a significant share of *all* economic resources of some of the smaller counties in the study area (see Table 2).

Naturally, it becomes more feasible to fund the project from existing sources if the counties in the study area were to form a multi-county district or consortium and pool smaller amounts of their individual resources. Special districts and consortia are common ways to fund public transit and have been used to develop interregional highway facilities as well.[8] In this case, if each participant in such a consortium agreed to contribute a fixed, annual amount (equal to approximately 4 percent of their current transportation budgets), the project's development and operating costs could be underwritten (see Table 3).

If the counties' existing sources of revenue for transportation were *elastic* with respect to traffic and economic activity levels, *and* the SR 504 extension project was successful in stimulating new economic activity (as its proponents would presumably predict), over time the counties' commitment to the project would be self-liquidating. That is, new revenue from taxes on new economic activity would come in that more than offset the financial commitment made to the SR 504 project. (And, hence, the counties would be eager to form such a consortium or special district.)

[8] The California Transportation Corridor Agencies are an example.

In reality, Washington's counties rely on a variety of tax and fee sources to finance transportation, only some of which are elastic with respect to new economic activity. Consequently, economic growth has generated project needs more rapidly than it has generated revenue through the existing instruments. This has made local transportation budgets tight even without the SR 504 project.

Additionally, it is likely that the constituent counties in the study area perceive the economic and transportation potential of SR 504 extension differently. The *pro rata* share of the project costs is reasonable only if the largest counties (i.e., Clark and Yakima) are in consortium; yet, it is possible that these counties may not perceive the benefits of the facility to be as great for them as it is for the smaller counties.

In summary, therefore, existing local funding entities and their sources are unlikely to be candidate funding entities for the project. Rather, if local entities were to have the burden of funding, they would need new more elastic sources, tailored to the perceived pattern of benefits of the facility.

Existing State Funding Facilities

WSDOT's August 2000 investment plan and state funds financial plan are presented in Table 8 for the two programs (I and M) whose purposes embrace most of the funding of construction and operation of highways. The SR 504 extension costs are small relative to the Department's overall budget and state funding resources. However, the SR 504 extension project is not on the state's current 6-year investment plan (2001-2007). Nor is it on the state's plan for projects beyond 2007.[9] The investment plan does include funding for the investigation of potential projects for economic development. Therefore, for WSDOT to embrace the SR 504 project without compromising other projects presumed to be of higher priority, total WSDOT funding would have to be expanded.

Currently, $1.4 billion or 65.5 percent of the state's (own) transportation revenue is derived from fuel taxes, while $565 million (25.8 percent) is derived from licenses, permits and fees, and $190 million (8.7 percent) is derived from ferry tolls. If these conventional devices where used to expand state spending, funding of SR 504 through the state's own funding facilities would require increases in fuel taxes, license fees, or ferry tolls (or some combination).

[9] See *WSDOT 2001–2003 Budget and Six-Year Plans*, August 2000.

The first two of these instruments could be used (as local increments) by entities in the study area, and the third (ferry tolls) lack a demonstrable nexus with cost responsibility for SR 504. Under these conditions, for the state programs to be the preferred funding entity for SR 504, the majority of the benefits of the SR 504 extension should accrue to vehicle owners and operators in the state outside the study area. This pattern of benefits seems unlikely. Hence, the use of the state's funding facilities, at least with their *existing sources of revenue*, is not an ideal component of a funding strategy from a efficiency or equity standpoint, the perverse appeal of broad-based finance aside.

Table 8: WSDOT Agency Budget Summary: 2001-2007 Current Law & New Law Investment and Financial Plans (selected programs, August 2000)

	WSDOT Programs	1999-2001	2001-2003	2003-2005	2005-2007	Six Year Total
			Current and New Law Investment Plan ($m.)			
I	Improvements	821.5	1,314.9	1,871.5	2,920.3	6,106.7
M	Maintenance	261.4	317.7	336.8	351.5	1,006.0
		1,082.9	1,632.6	2,208.3	3,271.8	7,112.7
			Current Law Budget Financial Plan ($m.)			
I	Improvements	794.0	715.5	143.0	42.7	1,695.2
M	Maintenance	261.3	275.0	254.7	261.3	1,052.3
		1055.3	990.5	397.7	304.0	2,747.5

Source: *WSDOT 2001-2003 Budget and Six-Year Plans*, August 2000. TEP stands for Transportation Economic Partners, Washington's public-private partnership initiative.

Existing Federal Funding Facilities

The Transportation Efficiency Act for the 21st Century ("TEA-21") is the current, primary determinant of federal highway program funding available to Washington.[10] As Table 9 below indicates, the majority of federal funding is tied to interstate highway and national highway system facilities, and bridge rehabilitation programs. Only $50 to $70 million a year is fully interchangeable ("statewide flexible funds") within Washington. Other funding is earmarked by type of improvement (e.g., safety), area size, or other specific conditions.

These programs are financed primarily from the highway account of the federal highway trust fund, and hence are underwritten primarily through federal fuel taxes, excise taxes and heavy vehicle sales and use taxes. Federal funding apportionments may only be drawn upon for qualifying facilities.

[10] TEA-21 expires in 2003. The projections beyond that time to 2007 in the table are WSDOT's projections.

Table 9: Washington State Apportionment of Federal Highway Programs, by Fiscal Year

Federal Program	2000 Actual $ m.	2001-2007 Average (est.) $m.	2001-2007 Total (est.) $m.
Interstate Maintenance	81	92	647
National Highway System	90	103	722
Minimum Guarantee Flexible	20	30	208
STP Allocation & Adjustments	118	140	982
Safety	12	14	98
Enhancements	12	14	98
Areas Over 200,000	32	31	216
Areas Under 5,000	11	11	77
Areas Under 200,000	15	28	194
STP Flexible	35	42	294
Bridge	122	146	1022
Congestion Mitigation/Air Quality	24	28	198
Metropolitan Planning	4	4	28
Recreational Trails	1	1	7
2% State Planning and Research (SPR)	9	11	77
Sub-Total	469	556	3890
High Priority Projects	36	27	188
Total Apportionments	505	582	4076
Memo: Total Statewide Flexible Funds	*55*	*72*	*503*

Source: ECONorthwest, from data in *WSDOT 2001-2003 Budget and Six-Year Plans*, August 2000, p. 121.

There are, however, other sources of federal funding, in addition to innovative finance facilities.

Federal Discretionary Programs

The FHWA administers a number of discretionary programs that represent special funding categories where FHWA solicits for candidates and selects projects for funding based on applications received. Each program has its own eligibility and selection criteria that are established by law, by regulation, or administratively. Below is a list of discretionary programs that may be applicable to the SR 504 extension project:

- *Public Lands Highway Program*. The intent of this program is to improve access to and within the federal lands. It is estimated that approximately $70 million will be available for candidate projects each fiscal year between 2001 and 2003. The federal share of the costs of any projects eligible under this program is 100 percent. The PLH funds are available for any kind of transportation project eligible for assistance under Title 23, United States Code that is

within, adjacent to, or provides access to the areas served by the public lands highway.[11] The PLH funds are available for transportation planning, research, engineering, and construction of the highways, roads, and parkways, or transit facilities within federal public lands.

- *National Scenic Byways Program*. Funds available under the National Scenic Byways Program are subject to federal contributions not to exceed 80 percent. Federal land management agencies are allowed to provide this share for projects on Federal or Indian lands. All funds are subject to obligation limitations. To qualify, projects must either (1) be on routes designated as either All American Road (AAR) or a National Scenic Byway (NSB) or (2) make the routes eligible for designation as either an AAR or NSB, or be associated with state scenic byway programs. (SR 504 is designated a scenic byway by the State of Washington.)

- *Innovative Bridge Research and Construction Program*. This program would be applicable for funding bridge construction if the project can demonstrate the use of innovative material technology that would reduce maintenance and life cycle costs. Under this program, up to 100 percent of the research and construction costs could be funded. The FHWA annually solicits candidates from state highway agencies and funds are allocated through cooperative agreements and contracts. Bridges on all public roads, including state and locally funded projects, are eligible. Additionally, funds may be used for preliminary engineering and the costs of evaluation of the innovative material performance over a reasonable time period.

- *Emergency Relief Program.* This program authorizes the FHWA to render assistance for repair and reconstruction of federal-aid highways damaged due to natural disasters. This program distributes funds at the discretion of the U.S. Secretary of Transportation. Washington received funds from this program for SR 504 after the 1980 eruption of Mount St. Helens. Because the program focuses on immediate emergencies, the number of

[11] A public lands highway is described as a forest road under the jurisdiction of and maintained by a public authority and open to public travel or any highway through unappropriated or unreserved public lands, nontaxable Indian lands, or other Federal reservations under the jurisdiction of and maintained by a public authority and open to public travel. Federal reservations are considered to include lands owned by the Department of the Interior, Department of Agriculture, Department of Defense, and other Federal agencies.

intervening years and the fact that TEA-21 authorizes only $100 million per year for the Emergency Relief Program, it is unlikely to be a source of project funding. This was confirmed, unofficially, with conversations with FHWA officials.

Federal Lands Highway Program

The Federal Lands Highway Program, as an adjunct to the Federal-Aid Highway Program, covers highway programs in cooperation with federal land management agencies such as the National Park Service, Forest Service, Military Traffic Management Command, Fish and Wildlife Service, and the Bureau of Indian Affairs. This program provides transportation engineering services for planning, design, construction, and rehabilitation of the highways and bridges providing access to federally owned lands.

- *Public Lands Highways Program:* Any public road providing access to and within federal lands is eligible for public lands highway funding. States may submit applications for funding under this program in response to FHWA requests for Public Lands Highway projects. State transportation agencies are to coordinate any application with appropriate federal land agency or Tribal government. The project selection is discretionary. Project selection is made by the FHWA administrator within available funding.

- *Forest Highway Program:* The Forest Highway Program applies to forest highways that provide access to and within the National Forest System. Funding is allocated through an administrative formula and the state Forest Service and FHWA select projects within the available funding limits. The Federal Lands Highway Office undertakes a major portion of the planning, design, and construction on these projects.

- *Park Roads and Parkway Program:* the National Park Service and the FHWA jointly administer this program. The National Park Service is responsible for selecting projects that receive funding under this program. The FHWA undertakes a majority of design and construction responsibilities for transportation projects that fall under this program.

- *Refuge Road Program:* The Refuge Road Program applies to funds that may be used by the U.S. Fish and Wildlife Service and the FHWA to maintain and improve public roads that provide access to or within a unit of the National Wildlife Refuge System. Refuge roads are public roads that provide access to or within a unit of the National Wildlife Refuge System and for which title and maintenance responsibilities is vested in the United States government. Funds are to be allocated for

each fiscal year according to the relative needs of the refuges in the National Wildlife Refuge System.

The nature of these programs is such that the opportunity to rely on these discretionary sources is limited. This was confirmed with conversations with FHWA officials and by observing the opportunities afforded similar projects.[12] Some funding sources would require that the facility be built to state standards, raising the costs of construction considerably.

In summary, none of the funding options for the SR504 extension are extremely strong. Table 10 below summarizes ECONorthwest's assessment of the likelihood of the various funding options. A combination of local and private funding, or vigorous lobbying for federal discretionary funds, have the greatest likelihood for success. Existing state and federal funding paths are currently tightly constrained.

[12] *The experience of the Beartooth Highway is instructive in this regard.* Beginning at the northeast entrance to Yellowstone National Park and traversing a 67-mile, northeasterly route through Wyoming and Montana, the Beartooth Highway is considered by many to be one of the most scenic highways in the nation. Built between 1932 and 1936, the federally-funded highway was officially dedicated on June 14, 1936. Recently, the highway has been designated as the Beartooth Scenic Byway under the Forest Service's Scenic Byway Program. The Beartouth Highway right-of-way is owned by the federal government; however, the actual ownership of the highway itself remains undetermined, as neither state nor federal agencies claim ownership.

Although several sections of the highway were reconstructed and upgraded in the 1960s and 1970s using 100 percent federal funds, the continuing jurisdictional issues have made, until recently, the improvement of the route impossible through typical highway funding alternatives. Following FHWA review that began in the early 1990s, an 8.4-mile section (Segment 1) has been designated for upgrading under the Forest Highway Program. Additionally, in November of 1997, the Department of the Interior and Related Agencies Appropriations Act (H.R.2107) provided $10 million in funding for rehabilitation of an 18.6 mile section (Segment 4) of the highway. TEA-21, however, authorized additional funding and, as a result, the proposed rehabilitation of Segment 4 has now been expanded to a reconstruction project.

Table 10: Summary of Funding Options and Their Likelihood

Program or Source of Funding	Likelihood
Local or Private Funding	⭘ to ●
Existing State Funding	○
Existing Federal Funding	
Public Lands Highway Program	○
National Scenic Byways Program	○
Innovative Bridge Research and Construction Program	○
Public Lands Highway Program	⭘
Forest Highway Program	○
Park Roads and Parkway Program	○
Other federal discretionary	○ to ●
Key (● = *good*), (⭘ = *fair*), (○ = *poor*)	

Financial Instrumentation Options

Financial instrumentation provides *financial engineering* services. The purpose of financial engineering is to match at lowest possible cost the cash flow requirements of the project to the revenues of the funding mechanism. In the context of highway project funding, financial instrumentation performs two basic functions:

- *Transformation of the timing of cash flows*. There is often a mismatch in the timing of the receipt of revenue and the cash flow needs of a project. For example, construction spending requires large sums of money at the front end of a project's life, but the supporting source of revenue may be generated over time. In such a case, the issuance of *bonds* supported by the future project revenue *transforms the timing of cash flows*.

- *Credit enhancement*. The development and operation of highway projects entails financial risk. The costs of the project may prove to be more than was anticipated and/or the revenues available to fund it may prove to be less than was anticipated. Under these circumstances, markets for public and private debt may penalize the issuer of the debt. *Letters of credit* and other forms of *credit enhancement*, provided by an entity well regarded by the marketplace, can lower the cost of funds for a project.

There are a wide variety of instrumentation options available, once a viable project has an identified, supporting revenue stream.

Bond Finance

Bond financing of some kind is almost certainly going to be required for the SR 504 extension unless the federal or state government makes a special appropriation to the project. The size of the construction expenditures involved is significant even for the study area as a whole, let alone individual county economies. Amortization of the cost burden will be a necessity. The following are some observations on the available bond facilities:

- *Revenue vs. general obligation bonds*. Public debt capacity is limited by federal law, and general obligation debt is the most limited. Any bonding associated with SR 504 development is most likely to be revenue bonds or *hybrid*/*double-barrel* bonds (i.e., bonds that are secured by combination of revenue and government full faith credit).

- *Referendum 49 bonds*. The referendum (in 1998) authorized the state to issue up to $1.9 billion in bonds for state and local highway improvements. This capacity has been largely unused, as Initiative 695 removed most the anticipated funding. The authority remains, however, and could be used to assist projects like the SR 504 extension once a supporting revenue stream is obtained.

- *Federal reimbursement for state and local debt*. Sections 115 and 122 of Title 23, US Code Highways provide for federal reimbursement, as relevant, for general obligation or revenue bonds issues by states and local governments, and for reimbursement of advance construction funds for federal aid projects.

- *Integration of private, state and local funding sources*. Section 129 of Title 23 was amended under ISTEA and TEA-21 to permit a state to issue federally-reimbursable debt for any project with a dedicated revenue stream, and is now expanded to include sources in addition to tolls (i.e., section 1012 debt and section 1044 toll investment credits). Interest, issuance and other bond financing costs are also now reimbursable under TE-045 innovative financing initiatives, and states can rely on reimbursement for advance construction spending into the next federal authorization period under section 308 of the NHS Act. Under the TE-045 initiatives, non-federal matches on federal aid highways can be satisfied with private and local contributions. In this manner, private or local entities (say, an SR 504 toll authority) could provide the state with funding to leverage available federal funds for the SR 504 extension.

- *Tapered and phased funding*. States also may now obligate funds over time for a project (*phased funding*) which can help get a project underway despite tight, current funding conditions. States may also *taper* their match for projects that qualify for federal funding so that more or less non-federal dollars are used in the funding process, depending upon the relative availability of each source of funds.[13] All of these features increase the flexibility of access to federal funds, and thereby give the state more flexibility with its apportionment of federal funds.

- *Private sector access to public-debt borrowing rates*. Even if backed by a secure revenue stream, bonds issued at non-tax exempt rates are unlikely to be an attractive option for funding the SR 504 extension; the amortized cost burden rises sharply with higher financing rates (see Table 1). Access to tax-exempt debt rates can be obtained by utilizing public debt conduits (though the caps on issuance volume remain). The Internal Revenue Service ruled in Advice Letter 23-10, however, that non-profit corporations also may issue such debt. Such entities are not subject to the same issuance volume caps as government agencies. In general, therefore, low cost debt facilities are available regardless of the funding entity.

Credit Enhancement Facilities

Another way to assist public or private sector financing of projects like the SR 504 extension is through *credit enhancement*. Credit enhancement involves an entity with a senior reputation in credit markets (such as a state, a large local government, bank or private firm) offering to guarantee the performance of a debt issue. Credit enhancement facilities do not obviate the need for the debt, of course, to be fundamentally sound. However, credit enhancement, relieves market participants of the cost of evaluating the quality of the credit. This reduces the market's aversion to the issue, lowers borrowing costs and, thus, lowers project costs.

The following are the primary credit enhancement opportunities for financing the SR 504 extension. In most cases, the SR 504 extension is a potential candidate, but only if the fundamental quality of the underlying facility credit (e.g., its pledged revenue stream) is high.

[13] The maximum federal match, of course, cannot be exceeded over the life of the project development.

- *TIFIA.* The Transportation Infrastructure Finance and Innovation Act is part of TEA-21. It provides direct loans, lines of credit, and loan guarantees to qualified applicant projects. Washington has used this facility (for direct loans and lines of credit) for the SR-16 public/private partnership project.

- *GARVEEs*. Grant Anticipation Revenue Vehicles are state authorized debt instruments repaid directly with federal-aid funds under the provisions of the NHS Act. The federal-aid funds linkage has enhanced the credit quality of these instruments, and the market has accepted GARVEE debt at favorable rates. The State of Washington proposed using the present value of future Federal-aid payments to fund a Spokane transportation operations facility, for example.

- *SIBs*. State Investment Banks are lending and credit enhancement vehicles capitalized with federal funds (with a state match), general funds and state highway funds. Federal support for SIBs has waned, under pressure from lobbies concerned that they facilitated avoidance of the Davis-Bacon Act and other factors. Hence, the SIBs are not largely state financed. Washington has a SIB, which could be used to provide credit or credit enhancement for SR 504.

- *Revenue reserve funds*. Revenue reserve funds are state or local fund set-asides used to provide comfort to investors in revenue-backed bonds. The Lee County Cape Coral/Fort Myers toll bridge loans were enhanced with revenue reserve funds.

- *Pledges of unobligated balances and direct federal credit enhancement.* Akin to revenue reserve funds, this form of credit enhancement involves special (usually specially legislated) pledges of contingent funds. Two, multi-county California Transportation Corridor Agencies obtained special legislation that provided standby lines of federal credit for area toll road projects.

- *Private credit enhancement: bond insurance, and bank, corporate and other private letters of credit.* A variety of bond insurance, letters of credit, and loan guarantee facilities are available from private entities. However, in general, these will be more expensive than government guarantees, and the qualification conditions are typically more stringent.

Contracting and other Implementation Options

Historically, state highways in Washington have been owned, developed, and operated by the state. Private entities are contracted to provide development and maintenance services, but the financial responsibility for development and operation rests with the state.

Private ownership and operation, in various forms, can influence the financing opportunities for developing the SR 504 extension:[14]

- *Lower development costs*. Privately owned facilities can often be developed at lower costs than publicly owned, federally financed facilities. Private ownership obviates the need to comply with Davis-Bacon and other regulations and practices that can elevate public project costs and/or delay project implementation. Lower development or operating costs reduce the financing requirements and enhance financial feasibility.

- *Leveraging of scarce or constrained public funds*. Through a number of the bonding and credit enhancement vehicles described earlier, contributions of privately owned right-of-way, tolls (public or private), equipment, and other assets can be used to reduce the public contribution needed for the facility.

The primary opportunities for the SR 504 extension in this context include the following:

- *Private toll road development*. The facility could be developed as a toll road by a private entity. Further financial feasibility research could determine the extent to which the toll revenues from such a facility would support administration, operating and/or development costs. Private toll operations could then be combined, as necessary, with public financing elements.

- *Marketing collateral development rights to private or tribal parties*. The development of the SR 504 extension would improve access to a variety of scenic and natural resources. This access could have value to private parties who could then be assessed fees in exchange for exclusive or semi-exclusive development rights in the area. Co-development with a Tribal or other private entity could provide access to other opportunities.

[14] Washington has experienced staff in the complex arena of public-private partnering and contracting. This section only discusses the financing implications for SR504.

- *Other marshalling of private assets*. The SR 504 extension right–of-way passes through private, industrial forestland. One opportunity, were there benefits to the private owner (e.g. access to timber or land development opportunities) in doing so, would be for that landowner to contribute the right-of-way. At this time, the owners of the industrial forestland do not appear to see the project as beneficial to them.

Alternative Funding Strategies for the SR 504 Extension

All of the prior discussion, of course, is simply prologue to answering the key question of this technical memorandum, "What are the potential alternative funding strategies for the SR 504 extension?"

This section presents several alternative funding strategies based on their conceptual feasibility, without attention to political factors. This section assumes that the SR 504 is not, and will not be in the near future, part of the state's highway investment plan. Changing the priority of the project, of course, remains an option.

Alternative 1: Seek High Priority or Discretionary Project Funding from Federal Highway Authorities

This alternative is already being explored, and would earmark special federal highway funds appropriations for SR 504. The justification, and apparent support, for federal funding is weak, except in a natural scenic corridor sense. However, this approach would not require establishing other funding or financing infrastructure unless state matches are required. In the latter case, this alternative could be combined with some of the alternatives discussed below.

Alternative 2: Form a Special District and Develop Tax Increment Revenues from within the District

A special district or corridor agency comprising the study area would be formed to develop local sources of revenue through one or more alternative pricing elements. Based on the analysis in this memorandum, the most conceptually sound pricing elements are:

a. Levy an area sales tax increment (either a new or dedicated increment)

b. Levy an area property tax increment (either a new or dedicated increment)

c. Levy a systems development charge for construction costs, and a fuel tax increment or tolls to support operating cost requirements and contribute to the support of construction spending

d. Implement electronic tolling, augmented as necessary by sales or property tax increments in the district

This alternative could employ conventional bond finance mechanisms, with direct loans or credit enhancement from the SIB, TIFIA, or special pledges or revenue reserves established with state unobligated funds.

Alternative 3: Invite the Private Sector to Develop and Operate the Project

It is unlikely that the private sector will be able to develop and operate the project based on expected toll revenues only. Consequently, the facility would need some public funding and is not a candidate for full privatization. The project would continue in public ownership, but the roadway facilities could be leased back to private entities for operation. The supplementary public funds would most logically come from local or state sources, and be used to support capital, rather than operating expenses:

a. Area sales tax increment (either a new or dedicated increment); this would require formation of a district or multi-county agency to implement the levy.

b. Area property tax increment (either a new or dedicated increment); this would require formation of a district or multi-county agency to implement the levy.

c. A systems development charge could be used to facilitate right-of-way acquisition or otherwise underwrite the public share of construction costs.

This alternative would be significantly less feasible if the necessary bonds or lines of credit were obtained under private sector (taxable) terms. A tax-favored, non-profit entity likely would need to be formed to obtain favorable credit terms.

Alternative 4: Incorporate the Project in an Integrated Transportation and Economic Development Plan

There may be circumstances under which private or tribal entities would be willing to bear a greater burden of finance of the facility than is possible under Alternative 3 (i.e., relying on toll revenues only). Owners of

property in the right-of-way or entities for whom the area has unique advantages, may be willing to contribute additional private resources upfront, or over time as their enterprises prosper. Candidates include owners of land adjacent to the right of way, and landless descendants of the Cowlitz Indian Tribe.

a. Private contributions of cash or right–of-way

b. Pledges of share of revenues from facilities developed in the corridor (e.g., casino revenues)

c. Revenue from SDCs, Mello-Roos type charges, or levies on new hotel and other sales activity, or property tax increments

It is unlikely that the development of property in the corridor itself will generate enough value-added to support full financing of the project. Consequently, these elements of funding would have to be combined with more broad-based instruments, such as tolling or study area-wide property or sales tax increments.

The private contributions can be used to leverage state apportionments of federal funds, if such funds are made available. TIFIA funding may be possible if sufficient, other private assets are marshaled, and if the revenue stream from private activities is sufficient.

Conclusion

The fundamental challenge in developing a funding strategy for the SR 504 extension is that the benefits to traffic are likely to be relatively modest, and the general economic benefits of the facility are amorphous, play out only gradually over time, and may be hard to use persuasively to justify federal and state support, or property and sales tax increments at the local level.

With the passage of TEA-21, the availability of TE-045 innovative finance options and other facilities, projects with good, fundamental economic basis are fundable. In the case of the SR 504 extension, previous technical memoranda have suggested that the economic benefits are somewhat more difficult to demonstrate. Consequently, if the project is to proceed to funding (without special concessions from federal or state funding), (1) the project's benefits need to be more clearly demonstrated and/or (2) local and private entities must signal confidence in the project by assuming credit risk through revenue reserve, letter or credit, or other means.

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